REMARKS

Claims 5-8, 14-17, and 19-30 are pending. Claims 5 and 14 have been amended, claims 1-4, 9-13 and 18 have been canceled and new claims 19-30 have been added to recite additional features of the invention. In addition, the specification have been amended to reference Figure 5C filed with the original application papers.

Reconsideration of the application is respectfully requested for the following reasons.

In the Office Action, claims 5, 6, 14, and 15 were rejected under 35 USC § 102(b) for being anticipated by the Tajima patent. This rejection is respectfully traversed for the following reasons.

Claim 5 recites broadly embodiments of the invention disclosed in the specification. In particular, claim 5 recites: (1) "a gray level detector for the detecting a gray level distribution of a data" and (2) "an adjuster for adjusting at least one of the number of sustaining pulses or a subfield arrangement in accordance with a gray level distribution of said data." The Tajima patent does not disclose these features.

The Tajima patent discloses a driver for a plasma display panel. The driver includes a circuit 75 which re-arranges the sequence of sub-frames in a frame of input data. (See Figure1). This results in an adjustment of the gray-scale level of the image shown on the display. However, circuit 75 does not re-arrange the sub-frames of input data based on "a gray level distribution of said data" as cited in claim 5. Unlike claim 5, the Tajima circuit re-arranges the sub-fields of

input data based on a vertical synchronization signal (V_{SYNC}) received from an interface circuit 70:

> [T]he gray-scale level adjustment means 75 is formed from a frame counter 79 and a sub-frame sequence pattern storage means 78, and this has the function of setting the turn-on sequence of sub-frames, for the purpose of appropriately rearranging the sustained discharge sequence of the number of sub-frames. (See column 16, lines 14-19)

> The frame counter 79 in controlled by the vertical synchronization signal (V_{SYNC}) and, in response to this vertical synchronization signal (V_{SYNC}), outputs a frame selection signal (FQ). This frame selection signal (FQ) is connected to the sub-frame sustained discharge sequence pattern storage means 78, and selects the region that indicates the sequence of sustained discharge of the sub-frames within the frame. (See column 16, lines 34-40)(Emphasis added)

In view of the foregoing disclosures, it is evident that the Tajima patent does not disclose "an adjuster for adjusting at least one of the number of sustaining pulses or a sub-field arrangement in accordance with a gray level distribution of said data."

Moreover, the Tajima patent does not disclose "a gray level detector for detecting a gray level distribution of a data." In rejecting claim 5, the Examiner drew a correspondence between this detector and circuit 75. However, no such detector appears in circuit 75. As discussed on column 16, circuit 75 performs the function of adjusting the gray-scale level of a displayed image, not "detecting" the gray-scale level of input data used to form the image.

This is clear form Figure 1, which shows that circuit 75 is formed from frame counter 79 and sub-frame sequence pattern storage means 78. The function of counter 79 is to generate a frame selection signal (FQ) from a vertical synchronization signal. The function of storage

means 78 is to store a sequence of sub-frames. Unlike claim 5, neither of these circuits detects a gray-scale distribution in the input data and therefore neither corresponds to the detector of the claimed invention.

Because the Tajima patent does not disclose all the features of claim 5, it is respectfully submitted that the Tajima patent does not anticipate this claim. Applicants further submit that these differences are sufficient to render claim 5 and its dependent claims non-obvious and thus patentable over the Tajima patent.

Claim 6 recites that the "adjuster adjusts both the number of sustaining pulses and a sub-field arrangement in accordance with the gray level distribution of said data." (Emphasis added). The Tajima patent does not disclose these features, i.e., Tajima discloses re-arranging the sub-fields of input data based on a vertical synchronization signal. It does not further disclose adjusting the number of sustaining pulses in any way, in accordance with the gray-scale distribution detected by detector 5 as cited in base claim 5.

Applicants, therefore, respectfully submit that claim 6 is allowable, not only by virtue of its dependency from claim 5 but also based on the features separately recited therein.

Claim 14 recites features similar to those which patentable distinguish claim 5 from the Tajima patent, e.g., "detecting a gray level distribution of a data" and "adjusting at least one of the number of sustaining pulses or a sub-field arrangement in accordance with a gray level distribution of said data." Applicants respectfully submit that these features are sufficient to render claims 14 and its dependent claims allowable over the Tajima patent. Applicants further

submit that claim 15 is separately allowable over Tajima as it recites features similar to those which patentably distinguish claim 6.

Claims 7, 8, 16, and 17 were rejected under 35 USC § 103(a) for being obvious in view of a Tajima-Tanabe combination. This rejection is respectfully traversed on grounds that the Tanabe patent fails to teach or suggest the features of base claims 5 and 14 missing from the Tajima patent, i.e., Tanabe does not teach or suggest detecting a gray level distribution of a data and then adjusting at least one of the number of sustaining pulses or a sub-field arrangement in accordance with a gray level distribution of said data. Accordingly, it is respectfully submitted that claims 7, 8, 16, and 17 are allowable, not only by virtue of their dependencies from base claims 5 and 14 but also based on the features separately recited therein.

New claims 19-30 have been added to the application.

Claim 19 recites the additional feature of "an average picture level controller which detects an average brightness of said data and outputs information to set a number of sustaining pulses in each of a predetermined number of sub-fields corresponding to said data." Claim 19 also recites that "the adjuster adjusts at least one of the number of sustaining pulses set by the average picture level controller in one or more of the predetermined number of sub-fields, or adjusts an arrangement of the predetermined number of sub-fields in accordance with the gray level distribution of said data." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 20 recites that "the average picture level detector detects the average brightness of said data as received from an inverse gamma controller. These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 21 recites that "the number of the sub-fields after said adjustment equals the number of sub-fields before said adjustment for driving the panel." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 22 recites that "the weighting value assigned to each of the predetermined number of sub-fields is the same before and after said adjustment." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 23 recites that "the adjuster generates a histogram a gray-level values corresponding to the gray-level distribution of said data, the adjuster performing said adjustment based on the histogram." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 24 recites that "the detector divides the gray-level distribution into a plurality of predetermined regions, and wherein the adjuster compares the gray-level distribution in the regions and adjusts the number of sustaining pulses in one or more of the predetermined sub-fields based on the comparison." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 25 recites that "the adjuster performs said comparison to determine a region having largest gray-level distribution and adjusts the number of sustaining pulses in one or more of the sub-fields to produce a corresponding change in brightness of the displayed image." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 26 recites that "the adjuster decreases the number of sustaining pulses to less than a predetermined reference value when the largest gray-level distribution is located in a region corresponding to a low range of gray levels." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 27 recites that "the adjuster increases the number of sustaining pulses to more than the predetermined reference value when the largest gray-level distribution is located in a region corresponding to a high range of gray levels." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 28 recites that "the adjuster includes: a sub-field arrangement selector which selects one of the plurality or pre-stored sub-field arrangements based on the gray-level distribution of said data." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 29 recites that "the sub-field arrangements are predetermined to reduce contour noise for different regions having a largest portion of the gray-level distribution." These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 30 recites that "in a first arrangement, the number of sustaining pulses in the sub-fields changes in ascending order; in a second arrangement, the number of sustaining pulses in a first portion of the sub-fields changes in ascending order, the number of sustaining pulses in a second portion of the sub-fields includes a maximum number of sustaining pulses, and the number of sustaining pulses in a third portion of the sub-fields changes in descending order; and in a third arrangement, the number of sustaining pulses in a first portion of the sub-fields changes in ascending order and the number of sustaining pulses in a second portion of the sub-fields are set to a same number of sustaining pulses." (See, for example, Table 1 on page 15 for support). These features are not taught or suggested by the cited references, whether taken alone or in combination.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and

please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP

Daniel Y.J. Kim, Esq.
Registration No. 36,186

Samuel W. Ntiros, Esq.
Registration No. 39,318

P.O. Box 221200
Chantilly, Virginia 20153-1200
(703) 766-3701 DYK/SWN/lm
Date: May 19, 2006

Please direct all correspondence to Customer Number 34610